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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/533,613	03/22/2000	Fred E. Stanke	21964-708	7897

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EXAMINER

PHAM, HOA Q

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 03/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/533,613

Applicant(s)

STANKE ET AL.

Examiner

Hoa Q. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 19 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3, 8, 11-20, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 3, 8, 22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some *c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The amendment filed 12/19/02 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the limitation **"said light source emitting a range of wavelengths, said range of wavelengths including visible and ultraviolet light"** in claims 3 and 22 is not supported by the original disclosure. Applicant is noted that pages 4 and 8 of the present specification teach that **the wavelength range for illumination and collection may be in the ultraviolet (UV) or the visible or the near-infrared (NIR). Nowhere in the disclosure teaches the use of both visible and ultraviolet light.**

Applicant is required to cancel the new matter in the reply to this Office Action.

2. Claims 3 and 22 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. As mentioned above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodera et al (5,695,601) in view of Fluckiger et al (6,052,188) or Sarfaty et al (6,413,867).

Regarding claim 3, Kodera et al (of record) discloses a wafer processing station (20) and a metrology station (30) apart from but coupled to the processing station wherein the metrology station comprises an ultraviolet light source (column 3, lines 30-37) illuminating a measurement region of a surface of a work-piece (10). (See figure 3).

Kodera et al does not explicitly teach the use of a light source which emitting a range of wavelengths includes visible and ultraviolet light and a spectrograph for monitoring the spectra content of the collected reflected light. However, such a feature is known in the art as taught by Fluckiger et al or Sarfaty et al. Both Fluckiger et al and Sarfaty et al, from the same field of endeavor, teaches the use of broadband light source which includes both visible and ultraviolet light and also a imaging spectrograph for collecting reflected light from the sample (see column 2, line 34 and column 7, lines 16-17 of Fluckiger et al or column 3, lines 50-60 of Sarfaty et al). Those of ordinary skill in the art at the time the invention was made to replace the optical detection system of Kodera et al by an optical metrology as taught by Fluckiger et al or Sarfaty et al because all the optical detection systems are used for determining the thickness of a layer. A substitution for each other is generally recognized as being within the level of ordinary skill in the art.

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Regarding claim 8, Koder et al shows the measurement region is wetted by supplying slurry (24) (column 4 lines 49-60).

5. Claims 3 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koder et al in view of Holmes (5,943,122) and Imani (5,517,032).

Regarding claim 3, Koder et al does not explicitly teach the use of a light source which emitting a range of wavelengths includes visible and ultraviolet light. However, such a feature is known in the art as taught by Holmes. Holmes, from the same field of endeavor, discloses a spectrophotometer (102) in which the, teaches the use of broadband light source which includes both visible and ultraviolet light (column 1 lines 29-32). For the same purpose of determining the thickness of a semiconductor wafer, it would have been obvious to replace the optical detection system of Koder et al by the system of Holmes. A substitution for each other is generally recognized as being within the level of ordinary skill in the art.

Holmes does not explicitly teach the use of that at least one spectrograph optically coupled to the measurement region of the surface. However, such a feature is known in the art, for example, as taught by Imani. Imani, from the same field of endeavor, teaches that a spectrophotometer can contain a spectrograph (12) (see figure 1). Thus, for the purpose of measuring the thickness at different points on a thin film layer on the surface of a wafer, it would have been obvious to include in Holmes a spectrograph as taught by Imani.

Regarding claim 22, Holmes teaches the use of an objective lens assembly (110,112,114).

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Regarding claim 23, the objective lens assembly is movable (see figure 2 of Holmes).

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Following references are relative to the present invention: Norton et al (5,747,813), Pecan et al (6,111,634), and Fujita et al (6,120,348).

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (703) 308-

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4808. The examiner can normally be reached on 6:30 AM to 5 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Hoa Q. Pham
Primary Examiner
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HP
March 12, 2003